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|--|--------------------|----------------|------|
|  | <h1>Tentative</h1> | <b>DSC8102</b> |      |
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# DSC8102

Silicon NPN epitaxial planar type

For Low-frequency amplifier

Marking Symbol : 5D

Package Code : MT-2-A1-B

## Absolute Maximum Ratings $T_a = 25\text{ }^\circ\text{C}$

| Parameter                             | Symbol | Rating      | Unit             |
|---------------------------------------|--------|-------------|------------------|
| Collector-base voltage (Emitter open) | VCBO   | 80          | V                |
| Collector-emitter voltage (Base open) | VCEO   | 80          | V                |
| Emitter-base voltage (Collector open) | VEBO   | 5           | V                |
| Collector current                     | IC     | 1           | A                |
| Peak collector current                | ICp    | 1.5         | A                |
| Collector power dissipation *1        | Pc     | 1           | W                |
| Junction temperature                  | Tj     | 150         | $^\circ\text{C}$ |
| Storage temperature                   | Tstg   | -55 to +150 | $^\circ\text{C}$ |

|          |    |           |
|----------|----|-----------|
| Pin name | 1. | Emitter   |
|          | 2. | Collector |
|          | 3. | Base      |

Note: \*1 Copper plate at the collector is more than 1.0cm<sup>2</sup> in area, 1.7mm in thickness.

## Electrical Characteristics $T_a = 25\text{ }^\circ\text{C} \pm 3\text{ }^\circ\text{C}$

| Parameter   | Symbol   | Conditions                     | Min | Typ  | Max  | Unit          |
|---|----------|--------------------------------|-----|------|------|---------------|
| Collector-base voltage (Emitter open)                               | VCBO     | IC = 10 $\mu\text{A}$ , IE = 0 | 80  |      |      | V             |
| Collector-emitter voltage (Base open)                               | VCEO     | IC = 1 mA, IB = 0              | 80  |      |      | V             |
| Emitter-base voltage (Collector open)                               | VEBO     | IE = 10 $\mu\text{A}$ , IC = 0 | 5   |      |      | V             |
| Collector-base cutoff current (Emitter open)                        | ICBO     | VCB = 40 V, IE = 0             |     |      | 0.1  | $\mu\text{A}$ |
| Forward current transfer ratio *1, *2                               | hFE1     | VCE = 2 V, IC = 100 mA         | 120 |      | 340  | -             |
| Forward current transfer ratio *2                                   | hFE2     | VCE = 2 V, IC = 500 mA         | 60  |      |      | -             |
| Collector-emitter saturation voltage *2                             | VCE(sat) | IC = 500 mA, IB = 50 mA        |     | 0.15 | 0.30 | V             |
| Base-emitter saturation voltage *2                                  | VBE(sat) | IC = 500 mA, IB = 50 mA        |     | 0.9  | 1.2  | V             |
| Transition frequency  | fT       | VCE = 10 V, IC = 50 mA         |     | 180  |      | MHz           |
| Collector output capacitance<br>(Common base, input open circuited) | Cob      | VCB = 10 V, IE = 0, f = 1 MHz  |     | 8    | 20   | pF            |

Note: Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 Measuring methods for transistors.

### \*1 Rank classification

| Code           | R          | S          |
|----------------|------------|------------|
| Rank           | R          | S          |
| hFE1           | 120 to 240 | 170 to 340 |
| Marking symbol | 5DR        | 5DS        |

### \*2 Pulse test

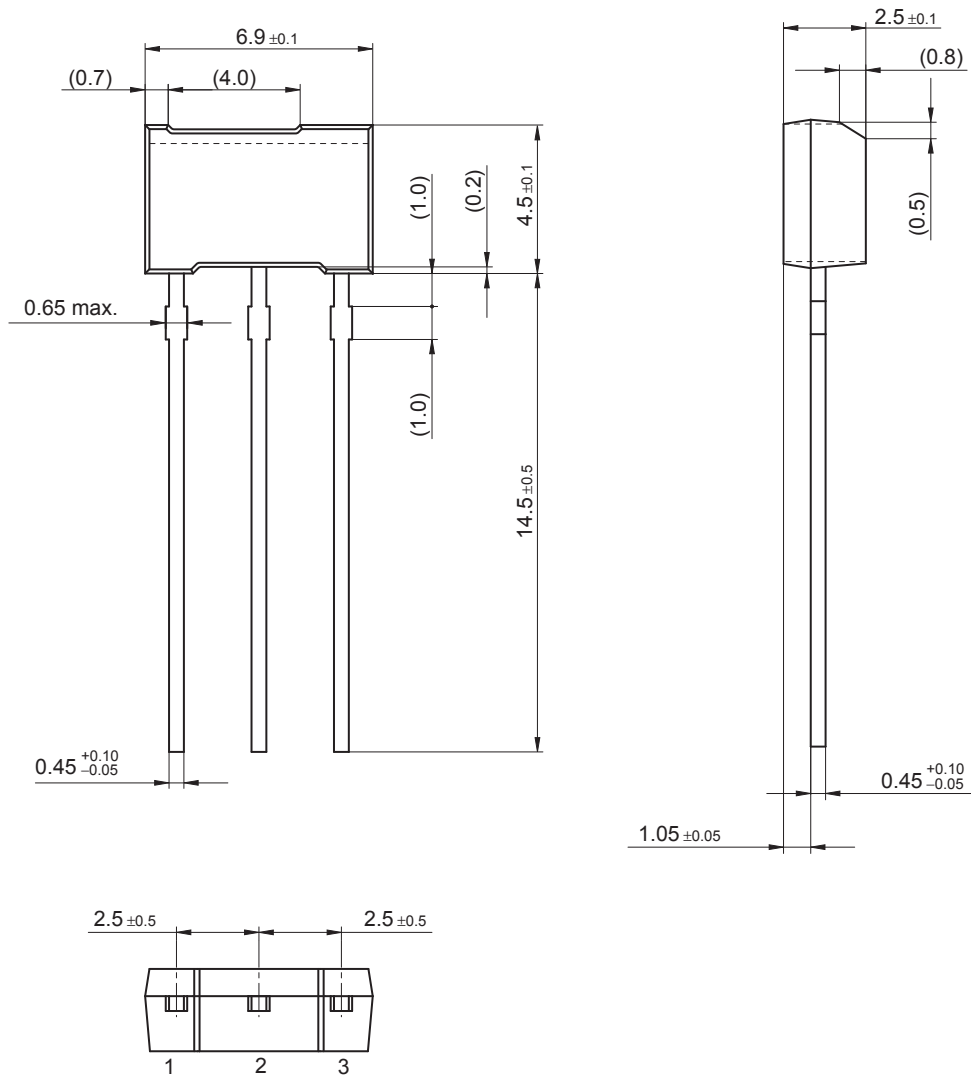
## Packing

Radial type : 2 000 pcs / carton

|           |           |  |
|-----------|-----------|--|
| 2010.1.29 | 2010.7.30 |  |
| Prepared  | Revised   |  |

# MT-2-A1-B

Unit: mm



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